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EPA Region 8 Energy Strategy
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List of Acronyms

BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CAA	Clean Air Act
CBM	Coalbed Methane
CEQ	Council on Environmental Quality
CERT	Council of Energy Resource Tribes
CHP	Combined Heat and Power Partnership
CWA	Clean Water Act
DEIS	Draft Environmental Impact Statement
DOE	Department of Energy
DOE/EIA	Department of Energy/Energy Information Administration
DOI	Department of the Interior
E&P	Exploration and Production
EA	Environmental Assessment
EC	electrical conductivity
EI	Environmental Indicators
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FTE	Full Time Equivalent
GPRA	Government Performance and Results Act
HSWA	Hazardous and Solid Waste Amendments
IOGCC	Interstate Oil and Gas Compact Commission
LDAR	Leak Detection and Repair
LEED	Leadership in Energy & Environmental Design
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NSR	New Source Review
OGEA	Oil and Gas Environmental Assessment
OPA	Oil Pollution Act
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
SAR	sodium adsorption ratio
SEP	Supplemental Environmental Projects
SIP	State Implementation Plan
SPCC	Spill Prevention and Control Activities
TMDL	Total Maximum Daily Load
UIC	Underground Injection Control
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound
WGA	Western Governors' Association
WRAP	Western Regional Air Partnership

EPA Region 8 Energy Strategy[1]

I. BACKGROUND

The Environmental Protection Agency (EPA) has been working to protect human health and the environment for more than three decades. EPA Region 8's offices in Denver and Montana carry out that mission in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming, including Indian country lands located within these states[2]. We share this challenging work with many partners – state, local and tribal governments, businesses, non-governmental organizations, communities and individuals.

EPA Region 8 is unique. Our states encompass the heart of the American West, including much of the Rocky Mountains, Great Plains and Colorado Plateau. Over two-thirds of our roughly 10 million people live in two distinct bands of urban development, Colorado's Front Range and Utah's Wasatch Front (Figure 1)[3]. These areas, along with a few isolated cities and towns, are experiencing rapid population growth. The region is also home to some of the most rural counties in the nation. Characterized by vast open spaces– mountains, plains, canyons and deserts – and small, concentrated population centers, these areas still maintain some of the wild, frontier character that many associate with the West. They also contain many of our nation's most recognizable landscapes, including Yellowstone, Glacier, Rocky Mountain, Badlands, Zion, and dozens more National Parks and Monuments, millions of acres of forests, and still more range, farm and grassland.

Our region is also arid, placing a premium on the availability and quality of water resources to meet competing demands from farmers, municipalities, and recreationists as well as ecological needs. Many rivers originate in the Rocky Mountain States, including the Missouri, Colorado, Rio Grande, Arkansas, and Platte Rivers; their waters are vital sources of life for people, plants and animals.

Public lands – including those managed by the US Forest Service, the Bureau of Land

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[1] **Disclaimer:** This document contains EPA Region 8 policy and does not establish or affect legal rights or obligations. This policy does not create any right or claim enforceable in any cause of action by any party against the United States, its agencies, offices or any other person. It does not impose legally binding requirements on EPA and is not finally determinative of the issues addressed. EPA may deviate from or modify this policy as the Agency deems appropriate. In applying this policy in any particular situation, EPA will consider its applicability to the specific facts, the underlying validity of the interpretations set forth in this policy and any other relevant considerations, including any that may be required under applicable laws and regulations. This document contains EPA policy and therefore does not establish or affect legal rights or obligations.

[2] The term "Indian country" is defined at 18 U.S.C. § 1151.

[3] Figures 1-7 can be viewed in map form at http://r8imsdev.r08.epa.gov/Website/EnergyStrategy. This Internet Map Service application is only available on EPA's intranet network at this time. Map navigation buttons on the left side of the map allow you to zoom, pan or identify map features. Click on a button to make it active, then click on the map to perform the navigation function. The layers listing on the right side of the map are a series of folders. Click on an energy sector folder to gain access to more data within that sector. Click the checkbox beside a data layer and click the refresh map button to have that layer added to the map. Most data in this application have a scale control. You must zoom in to a smaller area before the finer scale data appear on the map. For further information on maps, contact Tony Selle, EPA/Region 8 at 303-312-6774, selle.tony@epa.gov.

Management, and the National Park Service – comprise over one-third of the land area in our Region, making EPA's success dependent on our ability to work with other federal agencies (Figure 2). Tribal nations, which collectively cover an area larger than Tennessee, are also prominent. EPA Region 8 works closely with each of these 27 sovereign nations to protect human health and safeguard the natural environment. Private land holdings constitute approximately 50 percent of the land area, and are primarily located in the high plains east of the continental divide and in river valleys west of the divide.

Above all, our Region encompasses an abundance of natural resources, from natural gas and coal deposits to vast expanses of wilderness rich in natural diversity. They support our states, tribes, and local communities, and are a vital part of our regional and national identity. Our economies – including agriculture, energy development, mining, recreation and tourism – thrive on these resources.

II. VISION FOR 2010

As a result of efforts to implement this Energy Strategy, overall environmental quality in Region 8 will be maintained or improved. Energy projects in Region 8 will meet or surpass EPA regulatory requirements. EPA decision processes for energy projects will be efficient and timely. Increased production of renewable and non-renewable energy and greater energy efficiency will enhance national security and economic growth. EPA's energy goals will be pursued in collaboration with states, tribes, other federal agencies and other stakeholders.

III. ENVIRONMENTAL FEDERALISM

In this Energy Strategy, as in all other EPA Region 8 activities, a significant focus will be on environmental federalism. We mean by this term a division of effort with state and tribal partners that puts approved states and tribes in charge of delegated programs, with EPA in an oversight role. Our efforts are based on the concept that the best government is the closest government. "Federalism is rooted in the belief that issues that are not national in scope or significance are most appropriately addressed by the level of government closest to the people."[4]

This concept is, perhaps, even more true with regard to environmental protection than in other public policy areas. Many environmental statutes envisioned, from the beginning, that hands-on, day-to-day operation of environmental protection programs would be delegated to states, when states were ready to carry out the requirements. Several of these statutes have since been amended to include provisions for approved tribal governments to implement environmental protection programs on Indian country lands. In the last 15 years, a "devolution revolution" has taken place. The Environmental Council of States reports that about 75 percent of all the programs that can be delegated to the States, have been delegated. Additionally, States perform about 80 percent of the environmental enforcement actions each year[5]. Thus, a Constitutional principle has been embodied in environmental protection statutes and procedures.

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[4] Executive Order 13132, August 4, 1999, "Federalism," Section 2. (a).

[5] Environmental Council of States, Resolution on Environmental Federalism, approved April 12, 2000 and revised June 13, 2000.

Additionally, "...the States possess unique authorities, qualities, and abilities to meet the needs of the people and should function as laboratories of democracy."[6] Justice Brandeis' famous phrase, "laboratories of democracy," summarizes the important view that States can, through experimentation and innovation, find better ways to accomplish certain goals. While this ability to try new things is not unlimited – clean air and clean water are easily affected by what happens on the other side of a political boundary – best management practices developed in one place can often be transferred to another.

The United States also recognizes the right of Indian tribes to self-government and supports tribal sovereignty and self-determination. Each federal agency, including EPA, is charged with ensuring meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications, including encouraging Indian tribes to develop their own policies to achieve program objectives[7]. In addition, EPA's Indian Policy recognizes that tribal governments are the primary parties for setting standards, making policy decisions and managing programs for Indian reservations, consistent with Agency standards and regulations[8].

Environmental federalism not only exemplifies Constitutional principles and maximizes the nature of our organization of state and tribal governments, it is also good, solid, practical policy. "When we fail to use these federalism principles – consultation, disclosure, impact statements, deference, and enforcement – we spend even more effort to correct the problems created in areas such as ... environmental laws ...."[9] In other words, rather than correcting our errors after the fact, we should instead take the time, or use the federalism principles, to do it right the first time.

Region 8's energy policy should be read against this background.

IV. ENERGY PRODUCTION IN REGION 8

Region 8 currently accounts for about one half of domestic coal production, more than 10 percent of natural gas, and nearly 10 percent of oil production. The Region also produces a modest amount of the nation's wind power, about five percent, a share that is also expected to increase as wind projects are developed.

Oil and gas production (Figure 3) is especially concentrated through the middle section of the region on both flanks of the Rocky Mountains. Coal production (Figure 4) coincides

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[6] Ibid. Section 2. (e).

[7] Executive Order 13175, Nov. 6, 2000, "Consultation and Coordination with Indian Tribal Governments," Sections 2(c), 5(a) and 3(c)(1).

[8] EPA Policy for the Administration of Environmental Programs on Indian Reservations, Nov. 8, 1984, reaffirmed by Christine Todd Whitman, July 11, 2001. *See also*, EPA Region 8 Policy for Environmental Protection in Indian Country, March 14, 1996.

[9] Testimony of The Honorable Michael O. Leavitt, Governor, The State of Utah, Vice-Chair, National Governors' Association, May 5, 1999, at http://www.senate.gov/~gov affairs/050599 leavitt-testimony.htm, p.5

roughly with oil and gas production regions. Coalbed methane production currently is centered in the Powder River, Uinta, San Juan and Raton Basins.

Figure 5 shows the location of current wind farms and the wind energy potential of Region 8. Wind energy potential is influenced greatly by topography, with the Southern and Middle Rocky Mountains and the Uinta Mountains showing the greatest potential. Smaller scale topographic effects allow for wind energy production in areas not depicted as high potential (e.g., the Lamar farm in Colorado).

Figure 6 shows the locations of electric power plants. Coal-fired power plants provide the largest percentage of electricity production. Oil refineries and their production are shown in Figure 7. Refineries are located in each state in Region 8 except South Dakota, but are concentrated in the Wasatch Front in Utah, the Front Range in Colorado and in Billings, Montana.

Energy production in Region 8 has grown rapidly in recent years and this growth is projected to continue. For example, Region 8's share of domestic gas production is expected to increase significantly, as our land area overlies more than 20 percent of the nation's identified dry gas reserves.

Tables 1-3 present three scenarios [10] for energy production in Region 8 from now through 2025, based on the Energy Information Administration's *(EIA's) Energy Outlook* for 2004. Table 1: *Slow Technology Growth Forecast* assumes that technology progresses at 50 percent less than the historic rate; Table 2: *Steady-State Technology Growth Forecast* (EIA's "best guess" of the future) assumes that oil and gas technologies progress at the historic rate; and Table 3: *Fast Technology Growth Forecast* assumes that technology progresses at 50 percent greater than the historic rate. Taken together, these scenarios help to bracket future energy production in Region 8 and thus anticipate potential environmental concerns.

The *Steady State Technology Growth Forecast* shows very slight growth in annual crude oil production, 2002-2025. Natural gas production per year increases by 89 percent between 2002 and 2025, as does natural gas pipeline capacity exiting the Region. Production of Powder River/Green River low sulfur (sub-bituminous) coal grows by 96 percent.

The main differences between the *Steady State Technology Growth Forecast* and the *Slow Technology Growth Forecast* are that the latter projects slower growth in natural gas production and faster growth in Powder River/Green River low sulfur (sub-bituminous) coal

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[10] The *Energy Outlook* areas described in these tables do not correspond exactly with the area encompassed by Region 8, so projections should be viewed as indicative only. The Oil and Gas Supply Model Region includes the six states of Region 8 as well as Idaho, Arizona and the western half of New Mexico. The Coal Market Module includes Dakota Lignite production in North and South Dakota and eastern Montana; Powder and Green River Basin coal production in Montana and Wyoming; and Rocky Mountain coal production in Colorado and Utah. Electricity generation projections by fuel type are also available, but are not included herein because Region 8 electricity generation is divided about equally among three Electricity Market Module Regions so cannot be broken out. Maps of actual areas may be viewed at http://www.eia.doe.gov/oiaf/aeo/supplement/supmap.pdf

production. In comparison with the *Steady State Technology Growth Forecast*, the *Fast Technology Growth Forecast* shows considerably faster growth in natural gas production (149 percent) and in natural gas pipeline capacity exiting the region, and slower growth in Powder River/Green River low sulfur (sub-bituminous) coal production.

Table 1. Slow Technology Growth Forecast (50 percent slower than historic)

	2002	2005	2010	2015	2020	2025	% Change 2002-2025
SubTable 71. Lower 48 Crude Oil Production and Wellhead Prices by Supply Region							
Production (million barrels per day)							
Rocky Mountain	0.38	0.37	0.39	0.40	0.40	0.41	7%
Wellhead Prices (2002 dollars per barrel)							
Rocky Mountain	24.53	22.55	23.17	24.67	28.04	26.48	8%
SubTable 72. Lower 48 Natural Gas Production and Wellhead Prices by Supply Region							
Dry Production (trillion cubic feet)							
Rocky Mountain	*3.33*	*3.85*	*4.50*	*5.26*	*5.59*	*5.75*	*72%*
Wellhead Prices (2002 dollars per thousand cubic feet)							
Rocky Mountain	2.67	3.46	3.25	3.76	4.29	4.77	79%
SubTable 84. Natural Gas Pipeline Capacity By NGTDM Region (Design Capacity in BCF per Year)							
Capacity Entering Region							
Mountain	1148	1239	1239	1239	1255	1257	9%
Capacity Exiting Region							
Mountain	2593	3469	3749	3948	4332	4639	79%
SubTable 95. Coal Production by Region and Type (Million Short Tons)							
Western Interior High Sulfur (Bitumin	1.89	1.95	2.02	1.88	1.98	2.21	17%
Dakota Medium Sulfur (Lignite)	31.13	31.08	32.34	29.16	29.75	32.38	4%
Powder/Green River	410.22	458.71	512.58	583.96	655.49	789.19	92%
Low Sulfur (Bituminous)	0.00	0.10	0.99	1.20	0.87	0.00	N/A
Low Sulfur (Sub-Bituminous)	372.06	418.41	464.86	557.97	605.81	728.92	96%
Medium Sulfur (Sub-Bituminous)	38.16	40.20	46.73	24.79	48.81	60.27	58%
Rocky Mountain	60.41	53.55	62.45	78.31	90.51	104.60	73%
Low Sulfur (Bituminous)	50.37	47.18	54.20	67.81	78.61	92.90	84%
Low Sulfur (Sub-Bituminous)	10.04	6.37	8.24	10.50	11.90	11.70	17%

Table 2. Steady-state Technology Growth Scenario (Historic)

	2002	2005	2010	2015	2020	2025	% Change 2002-2025
SubTable 71. Lower 48 Crude Oil Production and Wellhead Prices by Supply Region							
Production (million barrels per day)							
Rocky Mountain	0.38	0.37	0.37	0.38	0.39	0.40	5%
Wellhead Prices (2002 dollars per barrel)							
Rocky Mountain	24.53	22.67	23.21	24.70	28.23	26.47	8%
SubTable 72. Lower 48 Natural Gas Production and Wellhead Prices by Supply Region							
Dry Production (trillion cubic feet)							
Rocky Mountain	3.33	3.98	4.57	5.46	5.83	6.30	89%
Wellhead Prices (2002 dollars per thousand cubic feet)							
Rocky Mountain	2.67	3.26	3.12	3.70	3.79	4.05	52%
SubTable 84. Natural Gas Pipeline Capacity By NGTDM Region (Design Capacity in BCF per Year)							
Capacity Entering Region							
Mountain	1148	1239	1239	1239	1255	1258	10%
Capacity Exiting Region							
Mountain	2593	3469	3799	4135	4476	5019	94%
SubTable 95. Coal Production by Region and Type (Million Short Tons)							
Western Interior High Sulfur (Bitumi	1.89	1.95	2.02	1.89	1.94	2.12	12%
Dakota Medium Sulfur (Lignite)	31.13	31.12	32.35	29.17	29.80	32.41	4%
Powder/Green River	410.22	459.15	511.07	573.07	636.99	758.80	85%

Low Sulfur (Bituminous)	0.00	0.10	0.99	1.20	0.01	0.00	N/A
Low Sulfur (Sub-Bituminous)	372.06	418.85	463.40	547.08	590.91	697.20	87%
Medium Sulfur (Sub-Bituminous)	38.16	40.20	46.67	24.79	46.07	61.59	61%
Rocky Mountain	60.41	53.58	62.53	78.40	91.13	104.54	73%
Low Sulfur (Bituminous)	50.37	47.21	54.29	67.81	80.20	92.90	84%
Low Sulfur (Sub-Bituminous)	10.04	6.37	8.24	10.58	10.93	11.64	16%

Table 3. Fast Technology Growth Forecast (50 percent faster than historic)

	2002	2005	2010	2015	2020	2025	% Change 2002-2025
SubTable 71. Lower 48 Crude Oil Production and Wellhead Prices by Supply Region							
Production(million barrels per day)							
Rocky Mountain	0.38	0.36	0.36	0.37	0.38	0.39	3%
Wellhead Prices (2002 dollars per barrel)							
Rocky Mountain	24.53	22.73	23.42	24.72	25.80	26.68	9%
SubTable 72. Lower 48 Natural Gas Production and Wellhead Prices by Supply Region							
Dry Production (trillion cubic feet)							
Rocky Mountain	3.33	4.06	4.72	5.88	6.95	8.31	149%
Wellhead Prices (2002 dollars per thousand cubic feet)							
Rocky Mountain	2.67	3.17	2.89	3.34	3.06	3.37	26%
SubTable 84. Natural Gas Pipeline Capacity By NGTDM Region (Design Capacity in BCF per Year)							
Capacity Entering Region							
Mountain	1148	1239	1239	1239	1255	1255	9%
Capacity Exiting Region							
Mountain	2593	3469	3924	4608	5515	6533	152%
SubTable 95. Coal Production by Region and Type (Million Short Tons)							
Western Interior High Sulfur (Bit	1.89	1.95	1.80	1.64	1.48	1.48	-22%
Dakota Medium Sulfur (Lignite)	31.13	31.10	32.35	29.81	29.84	32.46	4%
Powder/Green River	410.22	457.92	506.29	560.10	607.50	695.41	70%
Low Sulfur (Bituminous)	0.00	0.10	0.99	1.20	0.00	0.00	N/A
Low Sulfur (Sub-Bituminous)	372.06	417.62	458.58	534.13	561.42	639.40	72%
Medium Sulfur (Sub-Bituminous)	38.16	40.20	46.71	24.78	46.08	56.01	47%
Rocky Mountain	60.41	53.58	63.24	75.92	87.25	101.75	68%
Low Sulfur (Bituminous)	50.37	47.21	55.00	65.84	76.25	90.20	79%
Low Sulfur (Sub-Bituminous)	10.04	6.37	8.24	10.08	11.00	11.55	15%

A range of forces have converged to drive Regional energy production. These include market-based forces, domestic security needs, and technological advances, as well as associated government policies[11]. Growing demand for natural gas, coupled with declining production in mature geologic basins, has led to increased efforts to develop Region 8 natural gas resources. Our country's reliance on imported oil (and thus our vulnerability to import disruptions) is 50 percent higher today than it was in the 1970's, despite energy efficiency improvements in vehicles, buildings, industry and electric power production. Due to technological innovation, wind power and other energy resources that once were marginal are now more financially viable, but still represent a small percentage of energy production regionally and nationwide.

This projected growth in regional energy production has important implications for meeting federal environmental standards, as discussed below. Areas of particular environmental concern with respect to natural gas and other energy development include, among others, the Powder River basin, the Rocky Mountain Front, the Roan Plateau, and the Greater Green River basin.

[11] National laws and policies that are important factors in regional energy production include the National Energy Policy, Executive Order 13212 - Actions to Expedite Energy-Related Projects, and the Mining and Minerals Policy Act of 1970. Also important are the statutory roles and responsibilities of partner Federal Agencies.

V. EPA'S ROLE IN ENERGY DEVELOPMENT

EPA's main responsibilities with regard to energy projects include:

- Direct implementation, including permitting of projects and enforcement, in areas where states or tribes have not been authorized to administer federal environmental programs
- Providing oversight of EPA-authorized state and tribal environmental programs, including review of permits for underground injection control, the National Pollutant Discharge Elimination System, air emissions and other programs as agreed and recognized in State-EPA Agreements or Performance Partnerships Agreements
- Review of certain environmental assessments for energy-related projects in connection with the National Environmental Policy Act
- Monitoring and assessment of air and water resources and certain wastes[12]
- Review and approval/disapproval of state and tribal water quality standards
- Review and approval/disapproval of total maximum daily loads for impaired waters
- Voluntary grants/programs for ecosystems, water quality protection, energy efficiency and renewable energy
- Promoting innovation and research and development to advance energy efficiency and environmental improvement[13]
- Providing technical support to States and Tribes

VI. EPA's ENERGY GOALS

The goals, activities and tasks presented below address some of the most pressing EPA issues associated with energy projects in Region 8. They will help to achieve on a regional basis the energy-related EPA objectives and sub-objectives presented in Figure 8, drawn from *2003-2008 EPA Strategic Plan: Directions for the Future.*

[12] In conjunction with states, tribes and other federal agencies.

[13] EPA's National Center for Environmental Innovation provides a testing ground for innovative ideas that advance environmental protection, assists in adopting innovative policies and programs, and supports improved environmental performance in business, communities, and state, tribal and local governments. EPA's Office of Research and Development is developing information and models to identify human and environmental resources that may be vulnerable to energy-related (and other) activities. These tools will model exposures and predict responses to both individual and overlapping stressors.

Figure 8: EPA Strategic Plan Objectives and Sub-Objectives Addressed by the Region 8 Energy Strategy

Sub-objective 1.1.1: More People Breathing Cleaner Air: Particulate Matter 10, Prevention of Significant Deterioration for NOx, SO2, Regional Haze
Sub-objective 1.1.2: Reduced Risk from Toxic Air Pollutants
Objective 1.5 : Reduce Greenhouse Gas Intensity
Sub-objective 2.1.1: Water Safe to Drink: Underground Injection Control
Sub-objective 2.2.1: Improve Water Quality on a Watershed Basis: Water Quality Standards, Total Maximum Daily Loads, Monitoring and Assessment, National Pollutant Discharge Elimination System
Sub-objective 3.1.2: Manage Hazardous Waste and Petroleum Products Properly
Sub-objective 5.1.1: Compliance Assistance
Sub-objective 5.1.2: Compliance Incentives
Sub-Objective 5.1.3: Monitoring and Enforcement
Sub-objective 5.2.1 Pollution Prevention and Promotion of Environmental Stewardship by Government and the Public: Environmental Management Systems, National Environmental Policy Act
Objective 5.3: Build Tribal Capacity

Goal 1: Ensure Efficient and Timely EPA Decisions about Energy Projects

Activity 1: Develop regulatory flowcharts, and identify and implement any efficiency improvements, as appropriate

Challenge: In the context of the National Energy Policy of 2001, federal agencies in Region 8 have been charged with reviewing regulatory, statutory, and discretionary processes with regard to energy projects. After examination, EPA will consider making any identified adjustments to its approaches to non-renewable and renewable energy projects so that review and permitting processes are timely and efficient, while compliance is maintained with federal environmental statutes and regulations and protection of human health and the environment is ensured.

Objective: Expedite EPA permitting and regulatory actions when appropriate.

Action: Develop flow charts for EPA regulatory processes pertaining to energy projects. Determine whether bottlenecks exist and whether efficiencies can be gained. Discuss localized solutions and implement where appropriate. Document approaches and establish situation reports to track implementation modifications and results. Utilize tracking data base to measure results.

Expected Result: Implement appropriate time and resource-saving steps to make timely decisions or input on energy projects in accordance with federal environmental statutes and regulations.

Activity 2: Design and implement energy project tracking system

Challenge: To identify workloads and responsiveness to those workloads by providing a real-time measurement tool for EPA program staff, management and regional leadership.

Objective: Establish a real-time Agency tracking system for energy permitting and regulatory actions for use by programs and as a management tool.

Action: Certain Region 8 programs have established various data measurement systems which they independently maintain. As an example, the UIC and NEPA programs track what work they have received, the current status of the work, and the date of completion. Region 8 will integrate existing data systems into a single Region 8 energy data base that is updated on a regular basis. Where systems have not been developed, programs would be strongly encouraged to develop a tracking system that can be linked to the Energy Project Tracking System. This data system should be in a supported software, such that if problems occur, fixes are available. The system should be sortable by action type and include at a minimum: the title of project; assigned program; date received; specific FTE working on the project; monthly updates (if long term); and date of completion. Additional modifications may be necessary as they are identified, such that additional reporting criteria can be added as necessary.

Expected Result: Management and programs will be able to discern the status of an energy-related project, regardless of program area. It is expected the tracking system could be used to validate program specific resources and measure results. The data base will establish Regional situation reports to track progress and be used to update or advise partners, Headquarters and the public, as appropriate.

Goal 2: Continue to Meet Federal Environmental Requirements and Maintain or Improve Environmental Quality with Respect to Energy Projects

Activity 1: NEPA

Task 1: Scoping of NEPA-related requirements

Challenge: Scoping is the early identification of potential issues and concerns before an environmental impact statement (EIS) or environmental assessment (EA) is prepared on a proposed project. Continued early and active involvement of EPA at this stage is critical to improve the quality of the analysis and to recommend mitigation of potential adverse environmental impacts from a project. Scoping requires a commitment of resources to collaborate with the lead agency and participate in meetings. Thus, EPA's ability to participate early might be constrained by resources and travel funds.

Objective: To achieve better environmental results with improved interagency coordination through early involvement in NEPA- related projects.

Action: Proper scoping can establish an effective relationship with the lead federal agency and any contractor(s) preparing an EIS or EA. EPA should continue to work with other federal agencies to increase EPA's early and effective participation in the scoping process. EPA will also decide whether to accept invitations or request to be designated a Cooperating Agency. EPA will proactively scope the complexity of various proposed energy projects and determine whether the Agency has sufficient resources to participate in light of the extent of possible adverse environmental impact.

Expected Result: Early involvement will lead to a more thorough analysis of environmental impacts and improved projects.

Task 2: Draft environmental assessments (EAs)

Challenge: While EPA is not required to review EAs, we review selected EAs at our discretion under the review authorities in NEPA and Section 309 of the Clean Air Act (CAA) or as requested by the lead agency, if EPA resources permit. The general practice is to review EAs that are related to an earlier EIS or those known to be of critical importance. EPA does not have sufficient resources to review all energy-related EAs.

Objective: To ensure appropriate use of the EA process and provide sound technical and policy advice to the lead agency regarding the use of environmental assessments for better environmental protection.

Action: EPA participates where there are potentially significant environmental impacts or where our input could provide assistance in minimizing adverse environmental impacts.

Expected Result: EPA's review of high-priority EAs results in better environmental analysis and decision making and maintains the integrity of the NEPA process.

Task 3: Draft environmental impact statements

Challenge: Pursuant to NEPA and Section 309 of the CAA, EPA reviews and comments on the environmental impacts of major federal agency actions significantly affecting the quality of the human environment, including actions analyzed in Draft Environmental Impact Statement (DEIS) documents. EPA reviews and rates each DEIS for the quality of the analysis and the magnitude of the environmental impacts associated with the proposed project. DEISs are often very technical and complex requiring extensive review and comment.

Objective: To provide credible, thorough and complete environmental review in an efficient and effective manner which results in better environmental protection and improved relationships with federal agencies and the public.

Action: EPA conducts thorough and complete analyses of DEIS documents and prepares objective and detailed comments to improve the analyses and minimize environmental impacts from the projects.

Expected Result: A technically sound letter to the lead agency explaining our comments and rating and, as appropriate, detailing ways to improve the analysis, avoid unnecessary impacts, and/or mitigate unavoidable impacts associated with the proposed action. EPA's review can result in a finding that the proposed action is unsatisfactory from the standpoint of public health or welfare or environmental quality, making the EIS a candidate for referral to the Council on Environmental Quality (CEQ) (see Task 4 below). In these situations, EPA will work closely with the lead agency to resolve issues with the DEIS.

Task 4: Final environmental impact statements and follow-up action

Challenge: The Agency typically reviews all Final Environmental Impact Statements (FEISs), and it is EPA policy to review those FEISs where the Draft EIS raised significant issues and for any documents which had been given a referable rating at the Draft stage.

Objective: To resolve any environmental disputes and improve the NEPA analysis, as appropriate, so that it is not necessary to elevate disputes to the EPA Administrator or CEQ. However, if found necessary, the referral process will be done with sound technical credibility and with a well-established record of EPA's efforts to resolve the issues.

Action: EPA conducts a thorough and complete analysis of the FEIS and prepares objective and compelling comments to support its position. Where EPA has significant unresolved concerns, we pursue a series of high-level meetings with the lead agency.

Expected Result: EPA's goal is to resolve major issues with the lead agency wherever possible. In the event that the Administrator determines that an action is unsatisfactory from the standpoint of public health or welfare or environmental quality, the Administrator refers the matter to CEQ.

Activity 2: Air

Task 1: Protect air quality in areas meeting the health-based National Ambient Air Quality Standards

Challenge: Under the CAA, areas meeting the health-based National Ambient Air Quality Standards (NAAQS) are protected under various programs, including the Prevention of Significant Deterioration (PSD) program, and the Regional Haze and Visibility Programs. States generally have primacy for implementing these programs under approved State Implementation Plans (SIPs), while EPA retains certain enforcement and oversight authorities under the CAA. Regarding Regional Haze, states have submitted, or will be submitting, SIPs for EPA approval. For most of the states in our Region, EPA has already approved SIPs for PSD and visibility

programs. The primary challenge for EPA is to develop consensus among EPA and states and tribes, as well as other federal agencies, on a priority process to conduct comprehensive analyses of current and future air quality problems associated with energy development. Consistent with the federal government's trust responsibility to Indian tribes, EPA expects to increase oversight in areas such as PSD increment protection and develop and/or clarify policies that would address energy development and associated environmental issues in Indian country. These program requirements can pose a challenge for energy projects which may be located in areas thought not to be constrained by air quality concerns. As air quality has improved in urban areas, more and more areas are being redesignated to attainment status which could be jeopardized by growth in several sectors, including energy. Any lack of agreement among EPA, other federal agencies, states and tribes concerning the priority and process to perform comprehensive analyses for PSD Increment, NAAQS and Visibility protection for Class 1 areas may cause difficulty (Figure 1)[14]. Some energy projects also pose localized concern over hazardous air pollutants and air toxics.

Objective: Work cooperatively with our partners at the state and tribal levels to protect air quality in areas currently meeting the NAAQS.

Action: Clarify, nationally and regionally, EPA expectations for PSD analysis. Work closely with states, tribes, and other federal agencies as we implement the Regional Haze regulations, placing special emphasis on working with the states and tribes through the Western Regional Air Partnership (WRAP). Provide scientific and policy support to states for the purpose of assisting their efforts to implement CAA programs that protect and improve air quality. Assist states in evaluating oil and gas operations to improve understanding of the industry's impact on air quality and to facilitate the identification and implementation of cost-effective emission reductions. Work within the Powder River Basin Interagency Workgroup in Montana and Wyoming to monitor and manage air emissions. Participate with the BLM and Wyoming on preliminary statewide analysis to ascertain environmental impacts of air emissions. Participate in the North Dakota Memorandum of Agreement (MOA) process regarding PSD increment for SO2. Negotiate a Northern Cheyenne Tribe and Montana CAA 164(e) MOA, which may address increment analysis related to the Reservation. Assist state, local governments, and local citizen groups to better characterize the nature and extent of air toxics associated with energy projects. EPA will implement, or in areas where states or tribes have primacy, will assist in implementing CAA Programs to protect and improve air quality. We will work with our partners to insure that air quality is protective at local levels as well as from a cumulative perspective. Regional energy- related permitting and regulatory activities will take top priority in cases where EPA has direct responsibility, and the Region will encourage our local, state, tribal, and federal partners to also prioritize this workload.

Expected Result: Approve CAA Section 309 SIPs, as appropriate. Achieve greater consistency in state implementation of the PSD program. Assist states and tribes to improve their capabilities to conduct periodic reviews of increment and permit reviews, where warranted. Obtain a better understanding of energy development activities and impacts on air quality. We will formulate and implement an approved process for comprehensive air quality analysis.

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[14] Most Class I areas have extremely low population densities, especially the National Parks and Wilderness Areas. The Class 1 areas with relatively higher population densities are Tribal Lands.

Working with state and tribal partners, we will develop and implement a collaborative process for comprehensive air quality analysis for the Powder River Basin airshed. Resolve the SO2 increment issue in North Dakota, including determination of any needed source reductions. Reach an agreement on an air quality analysis process that assesses SO2, NOX and PM increment impacts on Northern Cheyenne Class I area. Assist in developing cost-effective solutions to air toxics problems and implementing solutions.

Task 2: Improve air quality in areas not meeting the National Ambient Air Quality Standards

Challenge: Whether in the form of power plants, conventional oil and gas development, or the fuel that we burn in our vehicles, energy projects can comprise a significant portion of the emission inventory for urban areas currently unable to meet the health-based NAAQS. Also, there is a great need to better understand and protect the public from unacceptable levels of air toxics which are frequently associated with energy projects and products.

Objective: All areas in Region 8 meet all of the health-based NAAQS in order to provide a healthy environment for all citizens.

Action: EPA and Region 8 states and tribes will define the nature and extent of any problems associated with the oil and gas sector, and help determine cost-effective and resource-conscious options available to minimize adverse impacts. The Early Action Compact for the Denver Metropolitan area will characterize the problem and develop solutions. EPA will assist the states and tribes in their review and analysis, share information across the Region, assure consistency, and approve controls, as appropriate, in State or Tribal Implementation Plans and for Indian Country. Region 8 will implement CAA Programs to protect and improve air quality; where appropriate, encourage incorporation of energy efficiency/renewable energy into State and Tribal Implementation Plans that address non-attainment issues; and work with states, to the extent permitted, to use energy efficiency/renewable energy projects to address pollution issues under the CAA.

Expected Result: State, tribal or federal implementation plans will describe control strategies to improve air quality that will affect industrial, agricultural, transportation and energy stakeholders. When consistent with the requirements of the CAA, EPA will grant credit for energy efficiency/renewable energy projects and related pollution prevention strategies. EPA will approve measures under the Denver area Early Action Compact for ozone. As a whole, the various actions listed above will improve understanding of air quality issues and solutions related to energy sector activity in non-attainment areas.

Activity 3: Water

Task 1: Water monitoring

Challenge: Groundwater assessment and management should receive more attention due to the importance of groundwater for environmental, drinking water, irrigation and industrial uses. Each state and tribe carries out a water quality monitoring program that is different in its goals and design from that of other states and tribes. Consequently, statements concerning water quality are often limited and difficult to compare among states and tribes. This lack of comparability is exacerbated by different standards and/or goals among the states and tribes which provide measures of water quality. States and tribes usually need additional support to design and implement monitoring plans for observing specific activities such as energy production.

Objective: Work with state water quality agencies to develop monitoring strategies that will identify areas that we can target to provide better technical and financial assistance so the States can better meet their monitoring objectives. Work with tribal monitoring programs to determine the best way to meet monitoring needs and obtain the resources necessary to address those needs.

Action: Surface water quality monitoring is one of four priorities established by the EPA Office of Water. A first step in addressing this priority is to determine the status and needs of state and tribal monitoring programs. This evaluation is underway in Region 8 with significant help from state and tribal agencies. Data analysis and management is emerging as a common need among the agencies. EPA staff are searching for ways to assist the states and tribes to address this need. EPA has contributed funds to interagency efforts to design and implement monitoring activities and networks in the Powder River Basin. A long-term monitoring strategy was designed with input from multiple states, tribes, agencies, industry and local landowners. If implemented, it will provide data to evaluate long-term trends in the basins. EPA is participating in interagency and public data collection activities needed for the Powder/Tongue/Rosebud Basin Total Maximum Daily Load (TMDL) modeling work. This experience will serve as an example for other energy production areas that require surface water quality monitoring to track potential impacts and effectiveness of best management practices. The priority for EPA's ground-water team is to enhance the ground-water programs in state, tribal, and EPA water programs through such activities as addressing policy and funding issues and providing technical assistance.

Expected Result: Improvements in water quality data management will allow greater availability and use of existing chemical, physical and biological data that are currently inaccessible from many organizations. Better baselines, analyses of impacts from energy production, and evaluations of best management practices will be developed so that land managers can apply adaptive management principles that improve environmental protection in areas of energy development. Indicators will be developed that make analyses more efficient. Resources will be more efficiently used due to interagency coordination and sharing of expertise.

Task 2: Water quality standards

Challenge: Water quality standards that provide appropriate levels of protection to water bodies in areas of energy production need to be developed where they are not already in place. Parameters unique to water quality changes associated with energy development are exemplified by sodium adsorption ratio (SAR) and electrical conductivity (EC). South Dakota and Montana have developed standards in response to strongly voiced concerns of potential water quality impacts by such parameters. Implementation of Montana's new standards, which are based on flow, are in a testing phase which requires additional monitoring and data review. Since standards describe the water quality goals of a water body, they are used for determining impaired status and assimilative capacity of a water body. EPA consults with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act (ESA) and the Fish and Wildlife Coordination Act.

Objective: All Region 8 waters meet a "fishable and swimmable" standard, unless a sound use attainability analysis shows that the water body cannot achieve this goal.

Action: Current interagency monitoring and modeling activities will help determine assimilative capacity of water bodies in areas of intense study and energy development such as the Powder River Basin. The results of these studies will provide information for standard-setting in other regions. Region 8 is active in regional, state and national interagency efforts to determine appropriate levels of protection and associated administrative processes for ephemeral streams receiving discharges from energy production activities. Regional staff in the water quality standards program are closely engaged with their state counterparts to develop appropriate standards. We will search for ways to expedite standards setting where we have control over the process and seek additional assistance to develop necessary data for standards setting. We have developed a template for consultation on the mixing zone policy in Colorado which will be used to consult with the USFWS regarding the mixing zone policy in other Region 8 states. We will use the same approach for state antidegradation policies. A number of water quality parameters will enter the consultation process at the national level.

Expected Result: Appropriate levels of protection will be developed via the states' standard setting processes for all water bodies in five years. EPA will continue to work with tribes to develop and implement water quality standards on Indian reservations.

Task 3: Total Maximum Daily Loads

Challenge: TMDL is a calculation to determine the amount of a pollutant that can enter a water body from all sources without causing the applicable numeric or narrative criteria to be exceeded or otherwise causing a loss in the designated uses assigned to the water body. Under the CWA, waters are assessed to determine whether the designated uses are being met. Those waters that are not meeting one or more uses based on chemical, biological or physical indicators are placed on the "impaired water body list" or Section 303(d) list. This list is revised every two years by State water quality agencies. Water bodies on this list must have a TMDL report prepared. EPA

and state water quality agencies are challenged to determine whether water bodies are impaired and to develop the required TMDL report for those water bodies. There are significant resource issues associated with the design and implementation of monitoring systems to determine impairment. EPA also consults with the USFWS under Section 7 of the Endangered Species Act (ESA), which becomes more complex as TMDLs in areas with listed species are developed and appropriate water quality criteria for those species are at issue. Thus far, we have consistently completed consultation on approved TMDLs.

Objective: Meet the court-ordered schedule for developing TMDLs in Montana, and provide technical and financial assistance to other Region 8 states and tribes so that TMDL development can continue in those areas as required by the CWA.

Action: As assessment of water bodies continues or increases with monitoring activities by states and tribes, water bodies may be added to or deleted from the states' 303(d) lists. Where water bodies are impaired in areas of energy development, TMDL reports will be developed according to state schedules and procedures. These reports will describe the pollutant that is causing the problem and its sources. The reports will include an allocation among the sources that provides sufficient capacity for the water body to maintain its designated uses, usually in terms of standards being met. If energy development activities are the sources of pollutants that need to be reduced, actions by the dischargers that will reduce the pollutant loads may be required. We will continue to provide technical and financial assistance (if available) to states and tribes. We will continue to provide training and technical transfer opportunities to states and tribes to increase their technical capacity. We will use the lessons of pilot water quality trading projects in the Region and nationally to develop opportunities where trading would be appropriate. We will develop our ability to work across programs on a watershed basis to implement the TMDL plans. We will take advantage of the emphasis in the nonpoint source program to devote Section 319 funds towards TMDLs development and implementation where impairment is caused by nonpoint sources of pollution. The Region will work with tribes when they request assistance related to TMDL-type work. The ability to develop TMDLs is related to the status of the particular tribe's water quality standards and monitoring program. We will also ensure that tribes are part of the stakeholder group developing TMDLs for shared waterbodies. We will continue to consult with the USFWS consistent with Section 7 of the ESA and the Fish and Wildlife Coordination Act.

Expected Result: As the states develop their capacity to develop TMDLs and implementation plans, the rate of TMDL report completion will increase. The TMDLs reports will be more detailed and there will be **a** possibility of better public involvement in developing them. Approved TMDLs reflect improved management of water quality and the implementation of steps to bring polluted waters into attainment status.

Task 4: Protect the quality of surface water and groundwater through the issuance of permits

Challenge: Continue to implement the regulatory requirements of the CWA and Safe Drinking Water Act as they apply to energy projects. The surface discharge and groundwater injection of wastewater may require either a National Pollutant Discharge Elimination System (NPDES)

permit or a UIC permit, respectively. Absent a federally approved tribal program, EPA has direct responsibility for issuance of permits in Indian country. For coalbed methane (CBM) produced water, the surface discharge permits should contain appropriate technology-based and water quality-based effluent limits. The approval of UIC permits to protect underground sources of drinking water depends on accurate technical and scientific evaluation in sometimes data-poor and geologically complex oil and gas development areas. In addition, energy projects on Indian country or federal lands may require compliance with NEPA.

Objective: Timely, quality permits protecting surface and groundwater assets.

Action: Develop guidance for establishing technology-based effluent limitations using Best Professional Judgment for NPDES permits issued by EPA in Indian country, considering economics and other requirements. Explore opportunities for watershed permitting to achieve new efficiencies and environmental results in the NPDES Program. Encourage effluent trading where appropriate to promote water quality improvements. Develop and use new processes to implement permitting, compliance and enforcement tracking systems, increase training opportunities, and facilitate internet access to Agency requirements and standards. Meet EPA responsibilities for new source NPDES permits by conducting a thorough, timely NEPA analysis. Where EPA will be meeting its NEPA responsibility as a cooperating agency, participate appropriately in preparing the EA or EIS. In addition, EPA will coordinate with the USFWS, as appropriate, under provisions of the ESA and the Fish and Wildlife Coordination Act.

Expected Result: Improved access to data. Timely, sound permitting decisions. Electronic information access will enable permit applicants and the general public to better understand agency requirements and could be further developed to provide for online permit application capability.

Activity 4: Solid and hazardous wastes issues at petroleum refineries

Challenge: Petroleum refineries generate a significant amount of solid and hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Also, refineries typically require corrective action under the Hazardous and Solid Waste Amendments (HSWA) of RCRA due to past releases of contaminants to the environment. The waste management (including pollution prevention and waste minimization) and corrective action issues at refineries can be complex and highly resource intensive (especially corrective action which may take decades to complete and may effect nearby communities, including environmental justice (EJ) communities). It can be difficult to make rapid progress under RCRA corrective action and, at times, to achieve national RCRA Government Performance and Results Act (GPRA) Environmental Indicators (EI) goals at refineries.

Objective: To assist Region 8 states (all of which are authorized) in improving waste generation and management practices, and to expedite the corrective action process at refineries.

Action: Region 8 will continue working with states to provide technical assistance and policy guidance concerning waste management and corrective action issues. Region 8 will continue to

look for ways to improve waste generation and management practices (especially pollution prevention and waste minimization, including the Resource Conservation Challenge/Industrial Waste Sector), expedite the corrective action process, and reach intermediate and final cleanup goals. We will also continue to promote effective outreach efforts with surrounding communities in concert and when appropriate with federal, state, and tribal partners. Region 8 will work closely with states to meet GPRA EI goals.

Expected Result: The expected results include more efficient waste management practices, increased pollution prevention and waste minimization activities, expedited cleanups, and increased community involvement. EPA intends to meet all RCRA GPRA EI goals.

Activity 5: Compliance assistance, incentives, monitoring & enforcement

Task 1: Comprehensive strategy for air quality issues associated with energy projects

Challenge: Promote industry and sector-wide focus on air quality issues associated with energy activities. This focus includes Regional participation in national efforts to address potential compliance concerns with New Source Review (NSR)/PSD, Volatile Organic Compounds (VOCs), Leak Detection and Repair (LDAR), benzene and flaring requirements at refineries across the country, and NSR/PSD concerns specific to coal-fired power plants.

Objective: Decrease air pollution from coal-fired power plants and refining operations, promote pollution prevention in these sectors, and increase availability of marketable products from these sectors.

Action: The Regional approach has been to develop discussions at the corporate or national level and/or with facilities in conjunction with and as part of national efforts. This includes contacting Region 8 facilities in these sectors to discuss corporate-wide and facility-specific concerns and solutions, while leveraging the national and corporate focus.

Expected Result: The result of these efforts has been that Region 8 is engaged in active resolution with 15 of the 16 refineries and, in many instances, pollution reduction and prevention projects have been implemented. Region 8 is in the exit strategy phase for this sector, which includes the eventual completion of discussions with all Region 8 refineries, and helping the states build their regulatory capacity. With regard to power plants, Region 8 has prioritized discussions with entities in this sector with the expected results of decreasing air pollution. The Region expects to resolve these concerns in a manner that also results in pollution prevention and potential increases in marketable product and production efficiencies.

Task 2: Oil and gas environmental assessment activities

Challenge: Address potential environmental concerns associated with oil and gas exploration and production (E&P) activities (refer to the OGEA report dated January 2003). This includes E&P activities that may come under the following statutory requirements: CWA (including

NPDES, Oil Pollution Act and Spill Prevention Control and Countermeasure (SPCC), RCRA, and CAA.

Objective: Minimize the environmental impacts of oil and gas exploration and production, through promoting a greater understanding of environmental guidelines and regulations by the oil and gas industries.

Action: Regional efforts include close coordination, communication, and collaboration with other federal agencies, states, local governments and tribes. The effort involves a phased approach, including: 1) information gathering/exchange/distribution and compliance assistance, 2) on-site evaluations, and 3) site-specific follow-up for selected sites. Also, we plan to continue our outreach efforts with industry.

Expected Result: The results of this effort include detection and correction of potential E&P site problems, and greater understanding of and compliance with applicable guidelines and regulations by the oil and gas industry.

Task 3: Protection of waters of the U.S. from spills

Challenge: Continue to protect the waters of the U.S. from oil contamination resulting from spills from storage facilities and to provide assistance to inform operators and the public of the requirements to prevent oil spills.

Objective: Through active assistance and cooperation with regulated facilities, minimize oil spills into the waters of the U.S., thereby preserving the environmental integrity of riparian areas.

Action: Provide in a sequential, geographic basis, compliance assistance (phone calls, workshops, fact sheets, etc.) to inform the regulated community of SPCC requirements. Subsequent facility evaluations provide opportunities to increase awareness of regulatory requirements. The OPA/SPCC expedited settlement tool will also be used.

Expected Result: These efforts are an effective way to reduce potential oil spills. The Region plans to focus on one or more geographic areas per year and will continue to offer assistance/evaluation as needed. The use of OPA/SPCC expedited settlements has resulted in faster return to compliance, lower transaction costs and, where appropriate, reduced administrative penalties.

Activity 6: Legal analysis

Challenge: Provide legal advice to Region 8 on energy-related EPA program issues in coordination with other EPA Regions and Headquarters and other federal agencies, in order to ensure that such legal advice is applied consistently throughout the federal government.

Objective: Continue to work closely with Region 8 Senior Leadership, managers and programs to provide legal advice regarding EPA actions and decisions related to energy development.

Action: Coordinate with attorneys from other EPA Regions and Headquarters as well as counsel for other agencies. Remain informed of EPA programs' energy-related issues as well as national and regional energy legislation, litigation, federal laws and regulations and multi-agency initiatives regarding energy development.

Expected Result: Work closely with Region 8 management and provide legal advice to assist the agency's implementation of energy-related decisions in a manner consistent with federal environmental laws and regulations.

Goal 3: Promote Energy Efficiency and Renewable Energy

Activity 1: Energy efficiency

Task 1: **ENERGY STAR®** partnerships (buildings, homes, products)

Challenge: ENERGY STAR is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency. Many businesses, homeowners and others do not take advantage of existing technologies and practices available through **ENERGY STAR** because of market barriers, such as lack of information or competing priorities. Challenges remain across all sectors to increase market penetration and awareness of **ENERGY STAR**.

Objective: To increase the use of the **ENERGY STAR** label to clearly identify which products, practices, and new and existing homes and buildings are energy efficient, offering lower energy bills and improving the environment.

Action: The Region will continue working with existing partners and organizations, and pro-actively cultivate new partnerships to adopt strategies using the **ENERGY STAR** platform.

Expected Result: By increasing the awareness and adoption of **ENERGY STAR,** Region 8 can be expected to match the national mark of 40 percent market recognition, and 60 percent where active energy efficiency programs exist (Montana only). The "homes" activities in Colorado, Utah and Montana will expand with increased awareness of the program. The buildings program will continue expanding in Colorado, Montana and Utah. States with limited existing building stock and few home building permits will continue to produce modest results without increased promotion.

Task 2: Regional energy management/environmental management systems

Challenge: For the next three years, the overall challenge will be to determine baseline energy use and negotiate what can be done differently in terms of energy use and types of energy

purchased. Region 8's new office building provides an opportunity for leadership by example. A key challenge is to ensure that the new building is designed to be as energy efficient as possible, that renewable energy is incorporated into the design to the extent possible, and that systems are put in place to measure energy use.

Objective: Make measurable reductions in current energy consumption at the Region 8 Office, Lab and Montana Operations Office, and design the new Regional office building to obtain the highest possible Leadership in Energy & Environmental Design (LEED) certification level (the minimum EPA requirement is LEED Silver), and serve as a model of energy efficiency. At a minimum the new building will achieve a level of efficiency 30 percent greater than of comparable office space in the Denver area.

Action: For the existing building, Region 8 will continue to educate staff on the importance of minimizing energy use, continue to seek out energy saving hardware and software, and work with building management and Headquarters to obtain information on baseline use necessary to determine the effectiveness of energy-saving measures. For the new building, we will utilize "whole-system" design concepts to achieve the highest possible level of energy efficiency in the building and systems. Active or passive solar energy will be an integral part of the design, and recent innovations in energy-saving, electrical, heating and cooling systems will be incorporated to the maximum extent possible. Since we will be the sole tenant, baseline and trend information will be much easier to obtain.

Expected Result: For the existing building, the Region's effort will achieve a modest, but measurable, decrease in energy use. For the new building, the Region will at a minimum reach the goals expressed above.

Task 3: Combined Heat and Power Partnership (CHP)

Challenge: Combined heat and power (CHP), or cogeneration, is the sequential production of power (electricity or shaft work) and thermal energy from a single fuel source. CHP is a more efficient, cleaner and reliable alternative to conventional generation. The CHP Partnership is a voluntary EPA program that seeks to reduce the environmental impact of power generation by fostering the use of CHP. The Partnership works closely with the CHP industry, state and local governments and other stakeholders to develop tools and services to support the development of new projects and promote their energy, environmental and economic benefits. There are significant barriers for energy-intensive industries such as institutional markets (hospitals, hotels, convention centers), abandoned industrial sites/brownfields, commercial buildings and others to adopt cogeneration in place of conventional power generation.

Objective: To reduce carbon dioxide (CO_2) emissions from the energy sector by expanding the use of combined heat and power (CHP).

Action: The Region will begin dialogues with organizations such as the Southwest Regional Combined Cooling, Heating and Power Application Center (which covers the States of Colorado, Utah, New Mexico and Nevada) and other partners to develop a Regional

cogeneration program. Region 8 will assist in conducting outreach and workshops for markets that are best suited for cogeneration.

Expected Result: A Regional cogeneration program will result in cost savings, improved power reliability, reduced environmental impacts, and conservation of limited fossil fuel resources.

Activity 2: Renewable energy[15]

Task 1: Wind energy

Challenge: Undeveloped wind energy resources within Region 8 (in every state and most Indian Country lands) have the potential to meet a significant portion of regional and national electrical needs with non-polluting, quick-to-construct, and cost competitive technology. The challenge is to identify steps that EPA can take in the near and mid-term to accelerate and streamline the development of this and other clean, renewable energy resources.

Objective: EPA policies and programs can contribute to the deployment of over 200 MW/year of new wind energy systems within the Region over the next five years (1000MW in five years).

Action: EPA should engage early with wind energy advocates in the Region and work to help identify issues for wind projects and associated transmission corridor siting. Because of the complexity of the varying authorities associated with placement, construction, and operation of wind energy sites, EPA will develop a generic guidance for key environmental activities, issues, and requirements, as they relate to EPA's direct implementation responsibilities on Indian country and other lands. This guidance document may be useful to states, local governments and private parties for wind energy development. As an example, the Intertribal Council on Utility Policy has proposed developing an environmental assessment for the next phase of wind energy development on Indian Country lands located in North Dakota and South Dakota. The Council seeks EPA participation to streamline the siting and construction of wind energy systems in the Region. With the completion of the guidance document, the Council and appropriate natural resource agencies (federal, state, local, tribal) will have a primer on environmental issues, concerns, and approaches to wind energy production. Where appropriate, EPA has and will continue to encourage the development of wind resources through the use of Supplemental Environmental Projects (SEPs) associated with enforcement settlements. We will use EPA's developed guidance document for optimizing the SEP-derived wind energy developments along with other renewable energy systems. Additional opportunities to promote wind projects may

[15] North Dakota recently held a summit focusing on renewable energy, with goals to further develop renewable energy industries through: 1) increased understanding of federal programs and increased understanding of the goals of private industry; 2) increased understanding of other states' renewable energy policies and programs; and 3) development of priorities for private industry, future legislation, administrative goals, and funding. North Dakota has the potential to host over 345,000 MW of wind turbine capacity. Each 1,000 MW of turbine capacity in North Dakota means $1 billion in capital investment, $5.3 million in annual local property taxes, 386 direct and secondary jobs, and $2.3 million in fees paid annually to landowners.

arise in both regulatory and voluntary programs, such as the National Environmental Performance Track Program. EPA will also work to increase its understanding of the goals and programs of renewable energy companies, States, and Tribes within the Region with the aim of assisting and supporting these objectives wherever possible.

Expected Result: EPA will have compiled a generic guidance document which identifies environmental issues and concerns and regulatory and statutory approaches associated with wind technology development on Indian Country and other lands in Region 8. This document may be used by other stakeholders when considering wind energy development. The document will assist in identifying opportunities for collaboration with industry, states, tribes, local governments, and private entities in advancement of their respective wind and other renewable energy goals. The result will be more wind power and renewable energy generation in the Region.

Task 2: Green Power Partnership

Challenge: The Green Power Partnership is a new EPA voluntary program working to standardize green power procurement as part of best-practice environmental management. Partners in the program pledge to switch to green power for a portion of their electricity needs within one year. In return, EPA provides technical assistance and public recognition. Green power is electricity generated by renewable energy sources including solar, wind, water (hydro), geothermal, biomass (combustion of organic materials) and biogas (combustion of naturally-produced methane). Organizations and consumers do not take full advantage of the green power options available in the Region because of the lack of awareness regarding the availability of green power.

Objective: To expand the market for green power products and lower air pollution and greenhouse gases associated with electricity consumption. Region 8 will lead by example in purchasing green power for its operations. Given the considerable potential for green power generation in the six Region 8 states, we will work with our partners to develop green power generation capacity at a rate at least 5 percent higher than the national average.

Action: Continue working with EPA Headquarters to procure additional green power for our operations (currently the Region 8 Lab is buying approximately 2,000,000 kilowatts hours per year of wind power). Region 8 expects to sign a contract in 2004 to obtain enough green power to meet the electricity demands of the Regional office. Purchase of green power for the Montana Operations Office will follow. Region 8 will begin working to promote the Green Power Partnership by collaborating with organizations and partners throughout the Region.

Expected Result: Region 8 will meet its electricity demand with green power. The capacity for green power generation will increase significantly. Region 8 will promote awareness of green power and quantify emissions reductions over time. These measures can be expected to increase the Partner base, the percentage of green power purchased, credibility and recognition.

Goal 4: Strengthen Environment & Energy Partnerships with Co-Regulators and Other Stakeholders

Partnerships are a crucial element of the Region 8 Energy Strategy. Wherever possible we will engage with our partners in early informal communication on potential emerging issues to ensure that the best-coordinated response occurs.

Activity 1: Partnerships with tribes

Task 1: Coordinate with tribes (tribal councils and environmental programs), other EPA programs, and other federal agencies and organizations regarding energy development and environmental protection on Indian country lands

Challenge: Federally expedited permit processes for energy development on Indian country lands should be evaluated carefully and in consultation with tribal governments. Determining surface and mineral ownership in and near Indian country can be a complicated process which may result in permitting delays. EPA will continue to consult with tribes before making energy-related decisions which may have an affect on Indian country lands or tribal interests.

Objective: Ensure energy development and environmental protection decisions in or affecting Indian country or tribal interests are coordinated with tribes and incorporate tribe-specific environmental, cultural and economic concerns.

Action: Consult with affected tribal governments (which may include tribal councils, tribal environmental programs or other tribal governmental agencies) regarding EPA actions related to energy development and environmental protection on Indian country lands or with regard to other actions with potential tribal implications. Identify and invite input from tribes regarding proposed environmental policies affecting energy development and environmental protection in Indian country. Coordinate with the Tribal Leaders Association and other entities to determine appropriate tribal representation on energy-related initiatives and coordinated efforts. Create a forum to seek input, experience and coordination among tribes involved with energy development and environmental protection, including allocation of assimilative capacity of air and water resources. Obtain, identify, document and provide tribes with any available environmental data regarding baseline air and water quality to assist in decision-making. Track impacts on tribal environmental and other resources resulting from energy development. Coordinate with the Pollution Prevention program and, as appropriate, the National Renewable Energy Laboratory and National Center for Environmental Innovation, to assist tribes which are interested in promoting energy efficiency and/or renewable energy on Indian country lands and to build tribal capacity. Coordinate with the Department of Interior and other federal agencies, as appropriate, to address energy issues on Indian country lands. Coordinate with tribes, BLM and BIA to ensure that compliance issues related to energy production are addressed, including adequate bonds for abandonment and reclamation. Obtain input from the Council of Energy Resource Tribes (CERT) and other tribal organizations regarding energy development. Work with CERT and tribal governments to develop strategies for improving federal agency coordination regarding environmental protection in Indian country. Ensure that energy

development which occurs in Indian country proceeds in compliance with environmental laws and regulations.

Expected Result: Decisions regarding development of energy resources and environmental protection on Indian country lands are made in full partnership with the tribes, other EPA programs and other federal agencies and organizations.

Task 2: Provide technical assistance to tribes regarding energy development and environmental protection

Challenge: Region 8 will continue to support protection of environmental, cultural and economic resources and tribal sovereignty in conjunction with energy development on or affecting Indian country lands. Tribes face many challenges and possibly conflicting interests regarding the development of energy resources and environmental protection on their lands. High-quality air and water resources are an important priority for many tribes from both economic and cultural standpoints. Outdoor recreation, hunting, fishing and agricultural activities on many Indian reservations are important economically and may be adversely impacted by increased energy development.

Objective: Ensure tribes have adequate scientifically sound environmental data, information and technical assistance in order to make decisions regarding energy development and environmental protection on or impacting their lands. Assist tribes in ensuring protection of tribal resources from impacts of energy development.

Action: Facilitate tribal input into decisions made as part of EPA's direct implementation of programs involved with energy development on Indian country lands. Upon request, assist tribes to develop programs and build capacity to implement programs for environmental regulation of energy production. Provide clarification regarding environmental requirements for energy development. Assess needs and interests and assist in the development of tribal energy strategies. Develop strategies reflecting EPA's trust relationship with tribes regarding energy development and environmental protection. As part of the Region 8 Policy for Environmental Protection in Indian Country, EPA will work with tribal governments on the development and adoption of environmental standards. EPA might also work with tribes to develop additional baseline water and air quality data to address tribal environmental and cultural concerns. Different tribes have different priorities and perspectives with regard to energy development and protection of their natural resources. Therefore, EPA will work with interested tribes separately to address their particular concerns, priorities and decisions with regard to energy development and environmental protection activities. As part of the Region's commitment to build tribal capacity, providing education and technical assistance on environmental matters related to energy development is essential to assisting tribes in making informed decisions.

Expected Result: Support tribal decisions with regard to energy-related development and/or environmental protection on their lands. EPA decisions related to energy development are made in consultation with affected tribal governments.

Activity 2: Partnerships with states

Task 1: State environmental program partnerships

Challenge: The current boom in hydrocarbon extraction and electric power generation in the Rocky Mountain region is placing significantly greater workloads on state agencies responsible for environmental protection and permitting.

Objective: Assist state agencies to meet the increased demand for permits and environmental protection.

Action: EPA should emphasize regular communication with state program managers and department directors regarding the capacity to deal with the increasing demands placed on their programs. As appropriate, EPA should seek additional financial and personnel resources to assist states with program implementation.

Expected Results: States and EPA will work in close cooperation to assure that environmental quality is maintained and program requirements are addressed as projects for energy production and transmission are permitted.

Task 2: State partnership for coalbed methane management practices

Challenge: To effectively share information regarding the efficient and environmentally responsible production of natural gas from coal seams across the states, private industry and the affected public.

Objective: Assure coordinated communication from involved agencies to interested parties on the best environmentally protective methods for producing coalbed gas.

Action: In cooperation with the Western Governors' Association (WGA), develop and publish a Best Management Practices Handbook for Coalbed Methane. If possible, follow up the publication of the guide with regional workshops on identified issues and responses.

Expected Results: Environmentally sound decisions will be made that are responsive to local interests and the national need for gas production.

Task 3: Partnership with Interstate Oil and Gas Compact Commission (IOGCC)

Challenge: Work effectively with the IOGCC (37 oil and gas producing states) concerning oil and gas exploration and production (E&P) environmental issues. The states are the lead agencies for most requirements pertaining to E&P sites.

Objective: Improve coordination, communication and cooperation with IOGCC to improve environmental conditions at E&P sites using effective, efficient solutions.

Action: EPA and IOGCC signed a Memorandum of Understanding (MOU) in 2002 concerning their respective roles and responsibilities and their intention to work together on a number of E&P environmental issues. A task force has been formed and a number of oil and gas related issues are being discussed.

Expected Result: The expected results are improved environmental conditions at E&P sites and enhanced working relations between EPA and IOGCC.

Activity 3: Other Partnerships

Task 1: EPA-Department of Energy partnership for energy efficiency and renewable energy

Challenge: Ensure efficient collaboration between Region 8 and the Denver Regional Office of the Department of Energy, including coordination of projects, events, initiatives, information and technology transfer programs, and other areas of mutual interest.

Objective: Maximize coordination and collaboration between EPA and DOE in promoting enhanced air quality through expansion of renewable energy development within Region 8.

Action: EPA will negotiate and implement a memorandum of agreement with DOE that defines areas of mutual interest and shared mission. The document will specify commitments agreed upon by each agency with respect to the nature of collaboration, timing and shape of cooperative efforts, and contact persons in each agency responsible for particular initiatives.

Expected Result: An effective framework for cooperation will lead to more efficient use of the two agencies' resources and deliver greater environmental results.

Task 2: EPA-Department of Energy partnership for responsible natural gas development

Challenge: The largest onshore reserves of unconventional, clean-burning natural gas in the lower 48 states lie in the states administered by EPA Region 8. As pointed out in the recent Natural Petroleum Council Study, *Balancing Natural Gas Policy, Fueling the Demands of a Growing Economy*, the development of these reserves will be essential if we are to meet our nation's growing demand for natural gas. The Department of Energy's in-house and contractor resources, as well as those of DOE national laboratories, will be made available to EPA Region 8 to ensure that environmental regulations affecting natural gas development accurately reflect the economic and geophysical realities of natural gas exploration and production. Similarly, Region 8 will suggest possible research opportunities for DOE's environmental research program, as well as help DOE better understand applicable environmental regulations and explain to natural gas industry stakeholders how to effectively comply with them. However, a mechanism is needed to ensure efficient collaboration between the two agencies.

Objective: Region 8 and the Department of Energy (DOE) Office of Fossil Energy will institute a partnership aimed at developing the region's natural gas resources in a manner that meets or surpasses all applicable environmental regulations.

Action: EPA will work with the DOE/Office of Fossil Energy to negotiate and implement an MOU that spells out areas of mutual interest and shared mission. The MOU will specify commitments agreed to by each agency with respect to the nature of the collaboration, timing and shape of cooperative efforts, and contact persons in each agency responsible for particular initiatives.

Expected Result: The natural gas resources located in Region 8 will be developed in a manner protective of the environment and consistent with environmental laws and regulations.

Task 3: Stakeholder partnerships for environmental innovations

Challenge: Region 8 will facilitate and participate in discussions among stakeholder groups whenever practicable and appropriate, to assist in developing and implementing creative approaches to enhance environmental protection measures associated with energy projects.

Objective: EPA will play a lead role in working with stakeholder groups to facilitate continuous progress in developing and implementing innovative technologies and approaches to improve environmental protection measures associated with energy projects.

Action: Region 8 will facilitate discussions with stakeholder groups such as environmental organizations, landowners, industry representatives, tribal and state environmental programs and others with interests related to energy development and environmental protection. For example, EPA will work with stakeholders to identify specific pilot projects or other efforts (such as the Resource Conservation Challenge) in which it may be appropriate to include new or enhanced environmental protection measures while facilitating energy development.

Expected Result: In collaboration with stakeholders, EPA will facilitate the development and implementation of appropriate, innovative and protective environmental protection measures and technologies in conjunction with energy projects in a manner that will facilitate production.

Task 4: Powder River interagency working group

Challenge: Region 8 will meaningfully participate in the Powder River Basin interagency activities aimed at minimizing water and air quality impacts from coalbed methane development.

Objective: Provide data, technical assistance and money to improve our knowledge of air and water quality in the basin and to help states, tribes and other federal agencies implement their programs in a more informed way.

Action: Region 8 will continue to participate in this workgroup, and try to put cooperative efforts together that maximize the availability of data and information to help make better decisions in the field.

Expected Result: Monitoring and modeling data will demonstrate a situational report in the basin with regard to both air and water quality. EPA and partners will look at trends over time and make appropriate management adjustments to protect the environment and human health.

Task 5: Energy efficiency/renewable energy aspects of pollution prevention and sustainability partnerships with other federal agencies

Challenge: Region 8's pollution prevention and sustainability partnerships with other federal agencies could yield greater results in energy efficiency and renewable energy, and thereby improve their environmental performance. The challenge is to find more effective ways to connect other federal agencies to the tools and resources they need.

Objective: Federal agencies and their permittees will use energy more efficiently, save energy by recycling and using more recycled products, and rely on bio-based fuels and renewable energy for a greater proportion of their energy needs.

Action: Target federal partners and federal permittees for outreach and technical assistance to measure their achievements in pollution prevention, environmental management systems, source reduction and recycling, and ENERGY STAR® .

Expected Result: Increase the level of energy efficiency and the use of renewable energy by the federal government.

Task 6: Ongoing EPA relationship with federal agencies on NEPA-related activities, including the Federal Leadership Forum

Challenge: Build and maintain strong and effective working relationships and good communication with other federal agencies in connection with the Region 8 NEPA process.

Objective: Continue to participate in effective dialogue with other federal agencies to resolve or prevent issues which could delay energy projects and/or fail to provide adequate protection of the environment.

Action: Regular meetings will be held with various federal agencies to review and evaluate the planned energy-related projects invoking NEPA requirements. The Federal Leadership Forum was established for this purpose and will continue with strong EPA support. EPA will work with other agencies to develop protocols and streamline existing processes to optimize the use of each other's resources and to manage conflict effectively.

Expected Result: Stronger working relationships will result in improved NEPA planning, more efficient use of EPA resources, and more effective resolution of any disagreements among agencies.

VII. IMPLEMENTATION OF THE REGION 8 ENERGY STRATEGY

This Energy Strategy will serve as a guide in developing energy-related elements of Region 8's work plans for 2004 and future years. Contacts for further information are provided in Table 4.

Table 4: Contacts for the EPA Region 8 Energy Strategy

Overall Contact:	David Hogle, 303-312-6313, Hogle.David@epa.gov
Goal 1: Ensure Efficient and Timely Environmental Decisions about Energy Projects	
Activity 1: Regulatory flowcharts	David Hogle, 303-312-6313, Hogle.David@epa.gov
Activity 2: Energy project tracking system	David Hogle, 303-312-6313, Hogle.David@epa.gov
Goal 2: Continue to Meet Environmental Requirements and Maintain or Improve Environmental Quality with respect to Energy Projects	
Activity 1: National Environmental Policy Act	Larry Svoboda, 303-312-6004, Svoboda.Larry@epa.gov
Activity 2: Air	Dick Long, 303-312-6005, Long.Richard@epa.gov
Activity 3: Water (Tasks 1-3)	Karen Hamilton, 303-312-6236, Hamilton.Karen@epa.gov
Activity 3: Water (Task 4)	Judy Wong, 303-312-6260, Wong.Judy@epa.gov
Activity 4: Solid and hazardous waste	Tom Aalto, 303-312-6967, Aalto.Tom@epa.gov
Activity 5: Compliance & enforcement	Eddie Sierra, 303-312-6404, Sierra.Eddie@epa.gov
Activity 6: Legal analysis	Kimi Matsumoto, 303-312-6875, Matsumoto.Kimi@epa.gov
Goal 3: Promote Energy Efficiency and Renewable Energy	
Activity 1: Energy efficiency	External systems: Patty Crow, 303-312-6464, Crow.Patty@epa.gov Internal systems: Tim Rehder, 303-312-6293. Rehder.Tim@epa.gov
Activity 2: Renewable energy	External systems: David Schaller, 303-312-6146, Schaller.David@epa.gov Internal systems: Tim Rehder, 303-312-9293. Rehder.Tim@epa.gov
Goal 4: Strengthen Environment & Energy Partnerships with Co-Regulators and Other Stakeholders	
Activity 1: Partnerships with tribes	Connally Mears, 303-31206343, Mears.Connally@epa.gov
Activity 2: Partnerships with states	Jack Hidinger, 303-312-6387, Hidinger.Jack@epa.gov
Activity 3: Other partnerships	David Hogle, 303-312-6313, Hogle.David@epa.gov
